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Planning/Marketing Services, Inc, Sarasota, FL

Prepared for

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345 Courtland Street, NE
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EPA 904/9-79-044L
October 1979

EPA Environmental Impact Statement DRAFT

Estech General Chemicals Corporation
Duette Mine
Manatee County, Florida

SOCIOECONOMICS

RESOURCE DOCUMENT

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The Draft Environmental Impact Statement for the Estech General Chemicals (formerly Swift Agricultural Chemical) Duette Mine is enclosed for your review and comment. The document has been prepared pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) (Public Law 91-190) and applicable EPA regulations at 40 CFR Part 6.9. Thirteen volumes of resource documents were also prepared. These resource documents comprise the detailed technical evaluations of the alternatives and the proposed action and contain supporting data related to the Draft EIS. While the Draft EIS is a complete document.

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SOCIOECONOMICS

RESOURCE DOCUMENT

Draft Environmental Impact Statement

Swift Agricultural Chemicals Corporation
Duette Mine Site
Manatee County, Florida

October, 1979

Prepared For: U. S. ENVIRONMENTAL PROTECTION AGENCY
Region IV
345 Courtland Street, NE
Atlanta, Georgia 30308

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SOCIOECONOMICS
RESOURCE DOCUMENT

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NOTE:

Effective August 1, 1979, Swift Agricultural Chemicals Corporation changed its name to Estech General Chemicals Corporation.

The preparation of the Draft Environmental Impact Statement was substantially completed at the time of the name change. Therefore, the name of Swift Agricultural Chemicals Corporation (Swift) is used throughout the Draft Environmental Impact Statement and all attendant Resource Documents.

SOCIOECONOMICS

1. DEMOGRAPHY

1.1 Baseline

Number of Inhabitants-Regional - The U. S Census Bureau announced in 1976, that for the first time in United States history, the majority of the population resided in the south and west. The growth is primarily a result of migration out of the north and into the "Sunbelt".

Florida has been a primary recipient of this immigration for several decades. During 1970-76, the state's population grew from 6.7 million to an estimated 8.5 million, a gain of 26 percent according to the Florida Statistical Abstract .

The migration of new residents into the state is primarily a result of climatic and other natural features. In addition to this historic trend of retiree orientation, Florida is also witnessing an increase of the younger immigrant seeking work in the job market or being given the opportunity to relocate because his employer is establishing Florida facilities. Table 1.1-A illustrates recent county immigration patterns.

Table 1.1-A Percentage of Growth by Natural Increase and Migration, 1970-75*

County	%Natural Increase	%Net Migration
Charlotte	10.6	110.6
DeSoto	8.2	91.8
Hardee	25.2	74.9
Hillsborough	17.6	82.4
Manatee	-8.4	108.4
Polk	17.9	82.1
Sarasota	-10.7	110.7

*University of Florida (1976).

The demographic statistics reported in the Central Florida Phosphate Industry Areawide EIS (Areawide EIS) summarized Florida's population in the area centered around the phosphate industry. The seven counties included in the Areawide EIS are Charlotte, DeSoto, Hardee Hillsborough, Manatee, Polk, and Sarasota. Table 1.1-B illustrates population within these seven counties.

Table 1.1-B Total Population by State and Seven Counties in Areawide EIS Study Area, 1970 and 1975*

County	April 1, 1970 Census	July 1, 1975 Estimate	Percent Change
Charlotte	27,559	42,190	53
DeSoto	13,060	18,190	39
Hardee	14,889	18,511	24
Hillsborough	490,265	605,597	24
Manatee	97,115	123,506	27
Polk	227,222	275,973	21
Sarasota	120,413	163,172	36
Total	990,523	1,247,139	26
Florida	6,791,418	8,485,230	25

*University of Florida (1975), U. S. Bureau of Census (1970)

Nineteen seventy-seven estimates for Florida update the above figures slightly. The more recent 7-county total is 1,261,868, a seven year gain of 27.4 percent. The region accounts for 14.5 percent of the total 1977 Florida population of 8,717,334. It also accounted for 14.1 percent of the state's estimated population increase during the period 1970-1977.

Future projections of regional population gain for the year 2000 range from a low of 1.7 million to a high of 2.2 million. The low figure projects a gain of only 480,000 or 38 percent, while the high is a gain of 964,000 or 77 percent.

This forecasted increase in population can be easily assimilated in the developed urban areas that presently exist within the 7-county region. Urban areas where future growth may be expected to locate are further discused in Section 3., Land Use.

Number of Inhabitants, Manatee County - Manatee County had a 1970 population of 97,115, a 40 percent gain over 1960. Manatee County had a 1975 population of 123,506, a 27 percent gain over the 1970 Census.

Migration has been the primary cause of county growth over the past four decades and there is no reason for this to change in the near future. The county will be connected

to the interstate system within five years, several major industrial firms are building large plants in the county resulting in some 2000 new manufacturing jobs, and the historic factor of retirees locating on the Florida Gulf coast is expected to continue.

Future population of Manatee County is projected to nearly double during the period 1975 to 2000, going from 123,500 to 241,600 according to University of Florida estimates. The U. S. Department of Commerce, Office of Business and Economic Research Services (OBERS) projection for the year 2000 number 253,600 and the Tampa Bay Regional Planning Council figure is 291,823.

Age - The age of inhabitants is a useful indicator of socioeconomic patterns. The older resident has long been a major factor of Florida population trends. Few of the State's 67 counties are similar to the national pattern. This is a result of retiree migration to the state. Only Hillsborough in the 7-county region approximates the 1970 median age for the nation of 28.0. Table 1.1-C illustrates median age by county. Manatee County is representative of many of Florida's retiree population centers. At the time of the 1970 census, nearly one-third of its residents were over age 65.

Table 1.1-C Median Age of Population by County, 1960 and 1970*

County	1960	1970	1970 % over Age 65
Charlotte	44.8	58.3	35.1
DeSoto	36.5	34.5	15.6
Hardee	29.1	26.6	10.0
Hillsborough	30.4	28.5	10.4
Manatee	41.1	48.7	30.2
Polk	29.1	29.8	12.6
Sarasota	40.5	49.6	28.6

*U. S. Bureau of the Census (1960 and 1970).

The aging trend of many Florida counties can be expected to continue as the retiree migration continues. Factors that may lower average age characteristics in selected areas include increased industrialization development of major tourism facilities and continued expansion of service and retail businesses. These activities will attract a younger labor force or extend opportunities for existing residents allowing them to stay rather than relocate because of the lack of job opportunities.

A study of labor force immigration patterns by the University of Florida was recently published in the Florida Outlook . The study revealed that a significant number of new residents from 1970-1976 were under age 65 and actively seeking employment. Another decade of yearly analysis will be necessary to assure that this was not just a rush to join the recent Florida construction "boom" that fizzled in 1974-75 with the national recession.

Several factors from this study are noteworthy; 28.4 percent of the new workers were employed in manufacturing, but only 16.2 percent located Florida manufacturing jobs. Hillsborough attracted 7 percent of all workers covered by this six year study, Manatee only drew 1 percent.

Employment - The region, with a population of 1.2 million, has a labor force estimated at 531,500 or equal to 45 percent of its residents.

During the early 1970's most counties in the region had high employment rates with unemployment amounting to only 2-3 percent of the labor force. The recent national recession drove these figures to 11 and 12 percent in 1976. Now according to state labor statistics, unemployment is in the range of 5-7 percent for each of the seven counties in the Areawide EIS study region. In mid-1977, some 493,000 persons of the labor force were working.

The current seasonally adjusted unemployment rates measured by the U. S. Department of Labor and Florida Department of Commerce are as follows:

	Dec. 1978
United States	5.9%
Florida	6.6%
7-County Region	5.8%
Manatee County	5.5%

The region's employment base is quite diversified. Agriculture, food processing, light and heavy industry, retailing and services are located in the interior counties. The coastal areas contain resort and leisure services, retailing, all levels of industry and manufacturing, residential construction and substantial numbers of workers in communications, government, transportation and utilities. The decline in residential construction was a major factor in unemployment during the recent recession.

1.2 Impact

Regional - Population characteristics and projected growth for the 7-county region should not be impacted by the planned Duette mining operation. It is an extension of general mining activities within the industry and is a replacement for an existing Swift facility.

The location of the new mining operation is in a rural location and will not disrupt any urban activities or development within the region. Support facilities are located in Hillsborough and Polk counties to the north and can readily serve the Duette site.

Quite possibly, and as a result of additional new mines in Manatee and Hardee, there could be a minor level of relocation of these mine related support services to a more convenient community. Wauchula, Zolfo Springs or even

Arcadia may someday replace Bartow or Mulberry as a service center for field operations.

During construction phases, it is generally quite easy to attract workers who are skilled in assembling industrial facilities from within the greater Lakeland-Tampa industrial work force. The actual number is under 500 and only for a short period.

Operation of the new Duette mine will require 324 workers. Many of these will be relocated Swift employees. A certain amount can be expected from other mines and also from the local Manatee labor force.

Manatee County - The local situation is similar to the brief Regional analysis. Needed mine workers should be easily obtained from the local labor supply. Support workers serving the mine operation may reside in Manatee but in small numbers.

The local labor force numbered 55,000 according to March, 1979 state figures. As county population grows over the next 25 years, so will its employee base. Other new industries locating in Manatee during 1978-79 may suffer a tight labor market for production and manufacturing skills. These conditions are believed different from the needs projected by the Swift operation.

Potential commuting trip distances to nearby communities that may house workers for the proposed mining activity are indicative of the mining industry in general. Mining operations are seldom close to urban development or major population centers.

1.3 Mitigating Measures

The proposed mine will not yield adverse demographic impacts that will require mitigation.

2. ECONOMY

The regional economy has been well documented and the role of phosphate mining and processing in the state and the 7-county region clearly detailed in the recently prepared Central Florida Phosphate Industry Areawide EIS and also the BOM 1974 Study on the Economic Significance of the Florida Phosphate Industry . The following elements will comment on reported findings, elaborate on specific areas, and attempt to delineate the Manatee County economy in those areas that might be affected by the proposed action.

2.1 Baseline

Income Levels and Distribution - Florida ranks 26th in the nation in per capita income, but leads all southeastern

states. Table 2.1-A illustrates per capita income levels by counties within the 7-county region as a percentage of the national average.

Table 2.1-A Per Capita Income as a Percentage of the National Average

County	1965	1970	1975	Rank in State
Charlotte	69	84	84	22
DeSoto	54	67	70	44
Hardee	70	71	69	45
Hillsborough	79	85	89	16
Manatee	78	83	83	17
Polk	87	85	90	15
Sarasota	102	118	115	3

Source: Florida Statistical Abstract, 1977.
The Statistical Abstract of the U.S., 1976

These figures are indicative of several long-term trends. Many Florida counties are below national per capita income levels but over the past decade they are slowly catching up.

Also illustrated by the table is the fact that the two smaller rural counties, DeSoto and Hardee, are lower income job markets when compared to the larger, more commercial/industrial centers of Hillsborough and Polk. Charlotte and Manatee are primarily service and retail oriented with large, stable retirement populations. Sarasota stands out as a result of a high incidence of wealthy retirees and resultant transfer of income payments from other sources, rather than local employment dollars. Sarasota is also a retail/service oriented community.

Distribution of income is another indicator of economic activity. Table 2.1-B from the Areawide EIS presents 1973 data that is still valid as a means of identifying the various sources of income within the region.

The table also illustrates the ratio of farm and non-farm income patterns within the region. In the rural DeSoto and Hardee Counties, farm income is very significant as a factor of total net income. Polk also had a major economic base in agricultural production and food processing.

Areawide EIS technical paper, Volume III, Demography, Economics and Culture cited worker mobility as an important element of the regional economy. Over $1.4 billion in income was earned by persons commuting to their place of work.

Employment - Labor participation rates are indicative of the varied economics of each county in the region. Table 2.1-C illustrates 1977 data from official state sources.

Table 2.1-B Distribution of Income, 1973, by Study Area and County of Residence (in thousands of dollars except for per capita)*.

	Study Area	Charlotte	DeSoto	Hardee	Hillsborough	Manatee	Polk	Sarasota
Farm Income	199,101	1,850	11,527	23,520	25,526	23,678	107,121	5,879
Nonfarm Income	1,758,419	70,575	32,958	24,745	140,560	254,823	786,953	447,805
Dividends, Interest Rent	837,685	42,758	5,452	5,937	248,272	107,127	138,526	289,613
Transfer Payments	748,352	42,307	9,250	7,560	281,219	103,464	147,289	157,263
Adjustment for Commuting	1,439,917	(+)5,836	(-)2,432	(+)5,095	(-)100,747	(+)8,175	(-)38,334	(-)10,018
Contributions to Social Insurance	207,495	3,845	1,562	1,058	117,399	14,201	44,188	25,245
NET INCOME	5,190,972	159,481	55,193	65,799	2,464,769	483,066	1,097,367	865,297
ADJUSTED 1973 PER-CAPITA INCOME	4,409	4,339	3,726	3,938	4,506	4,282	4,311	5,764
ADJUSTED 1970 PER-CAPITA INCOME	---	3,290	2,586	2,792	3,366	3,294	3,344	4,681

*Business and Economic Dimensions July-August 1975.

Table 2.1-C Population and Employment, 1977

County	Population (July, 1977)	Employment (March, 1977)	Percent Employed
Charlotte	44,313	11,914	26.9
DeSoto	17,973	5,113	28.4
Hardee	17,407	6,723	38.6
Hillsborough	602,667	259,162	43.0
Manatee	129,313	45,271	35.0
Polk	279,574	111,995	40.0
Sarasota	170,621	53,452	31.3
Region	1,261,868	493,630	39.1

Source: Florida Statistical Abstract, 1977
Florida Estimates of Population, 1978

Within the 7-county region, labor participation runs from as low as 26.9 percent in Charlotte (a retiree center, median age of 62 is highest in the state) to 43.0 percent in Hillsborough (a youthful commerce and industrial center). Overall for the state, the figure is 37.9 percent.

Employment by industry grouping reveals the various elements of the economy found within the 7-county region.

Table 2.1-D illustrates county employment by industry for the period 1970-75.

The following table summarizes county characteristics as a percentage to total employment for the region.

Table 2.1-D Wage and Salary Employment by Industry, 1970 - 1975*

	March 1970	March 1971	March 1972	March 1973	March 1974	March 1975*
CHARLOTTE COUNTY						
Nonagricultural Wage and Salary Employment **	5,280	5,820	8,040	10,000	9,280	9,260
Manufacturing	160	140	140	220	260	220
Construction	520	440	660	1,020	1,220	840
Transportation, Communications, Electric, Gas, and Sanitary Services	300	300	340	440	360	420
Wholesale and Retail Trade	1,340	1,620	1,740	2,580	2,360	2,400
Finance, Insurance, and Real Estate	920	980	1,320	2,140	1,620	1,280
Services and Miscellaneous	1,140	1,200	2,360	2,380	2,120	2,460
Government	900	1,140	1,480	1,220	1,340	1,640
All Other Nonagricultural Employment	1,380	1,560	2,160	2,480	2,200	2,240
Agricultural Employment	260	260	260	260	260	240
DE SOTO COUNTY						
Nonagricultural Wage and Salary Employment	3,180	3,060	3,400	3,800	4,020	3,940
Manufacturing	400	380	280	400	380	300
Construction	20	20	80	100	200	160
Transportation, Communications, Electric, Gas, and Sanitary Services	60	80	60	80	100	100
Wholesale and Retail Trade	680	580	700	920	860	820
Finance, Insurance, and Real Estate	100	60	80	100	200	180
Services and Miscellaneous	340	280	300	340	260	260
Government	1,580	1,660	1,900	1,860	2,020	2,120
All Other Nonagricultural Employment	700	680	760	800	800	800
Agricultural Employment	880	880	900	880	840	780
HARDEE COUNTY						
Nonagricultural Wage and Salary Employment	2,000	2,180	2,540	2,660	2,920	2,820
Manufacturing	220	260	340	300	320	220
Construction	40	20	80	80	100	80
Transportation, Communications, Electric, Gas, and Sanitary Services	100	120	140	160	180	180
Wholesale and Retail Trade	640	700	780	840	920	840
Finance, Insurance, and Real Estate	100	100	120	120	140	160
Services and Miscellaneous	320	280	320	420	360	320
Government	580	700	760	740	900	1,020
All Other Nonagricultural Employment	1,240	1,400	1,600	1,580	1,620	1,600
Agricultural Employment	1,960	1,980	2,000	1,980	1,880	1,760
MANATEE COUNTY						
Nonagricultural Wage and Salary Employment	20,940	21,040	23,620	27,540	31,500	30,480
Manufacturing	5,000	4,600	4,860	5,760	6,120	4,780
Construction	1,580	1,440	1,780	2,500	3,480	1,980
Transportation, Communications, Electric, Gas, and Sanitary Services	500	600	680	800	780	840
Wholesale and Retail Trade	6,160	6,480	7,080	8,380	9,100	9,620
Finance, Insurance, and Real Estate	980	1,020	1,120	1,260	1,680	1,600
Services and Miscellaneous	2,980	3,160	3,620	4,240	4,960	5,260
Government	3,740	3,740	4,480	4,600	5,380	6,400
All Other Nonagricultural Employment	5,580	5,780	6,480	7,080	7,600	7,540
Agricultural Employment	1,920	1,820	1,840	1,820	1,520	680

Table 2.1-D Continued

	March 1970	March 1971	March 1972	March 1973	March 1974	March 1975*
SARASOTA COUNTY						
Nonagricultural Wage and Salary Employment	36,820	38,480	42,060	50,000	51,220	46,780
Manufacturing	3,640	3,360	4,080	4,560	4,360	3,600
Construction	4,560	4,240	4,760	6,460	7,080	4,720
Transportation, Communications, Electric, Gas, and Sanitary Services	2,080	2,280	2,360	2,620	2,460	2,320
Wholesale and Retail Trade	11,020	11,840	12,500	14,680	14,480	14,080
Finance, Insurance, and Real Estate	2,560	2,720	3,020	3,700	4,120	3,900
Services and Miscellaneous	8,100	9,020	9,720	12,300	12,500	11,660
Government	4,860	5,020	5,520	5,680	6,220	6,500
All Other Nonagricultural Employment	7,660	8,260	9,000	10,020	9,640	9,040
Agricultural Employment	920	920	920	920	860	520
HILLSBOROUGH COUNTY ‡						
Total All Industries	171,500	174,400	192,800	219,200	230,400	219,300
Manufacturing	32,800	31,700	33,200	36,200	35,900	30,400
Nonmanufacturing	138,700	142,700	159,600	183,000	194,500	188,900
Construction	13,300	12,500	14,500	17,900	20,200	15,200
Transportation, Communications, Electric, Gas, and Sanitary Services	14,800	15,100	15,600	18,600	19,200	18,400
Trade	47,700	50,200	53,400	61,200	63,400	62,200
Finance, Insurance, and Real Estate	8,900	8,900	11,000	13,600	14,600	13,800
Services, Miscellaneous, and Mining	27,300	29,200	33,700	38,300	41,100	40,800
Government	36,700	26,800	31,400	33,400	36,000	38,500
POLK COUNTY ‡						
Total All Industries	76,000	76,600	82,000	91,200	98,700	100,800
Manufacturing	16,500	16,200	16,400	17,800	19,900	18,100
Mining	4,800	4,500	4,100	4,200	4,300	4,900
Construction	4,800	4,400	5,400	7,000	9,100	9,800
Transportation, Communications, Electric, Gas, and Sanitary Services	3,500	3,600	3,900	4,300	4,700	4,800
Trade	20,600	21,100	23,300	25,900	26,300	26,300
Finance, Insurance and Real Estate	3,800	3,800	4,000	4,500	5,000	4,700
Services, Miscellaneous	11,500	12,000	13,300	15,300	16,200	17,100
Government	10,500	11,000	11,600	12,200	13,200	15,100

†Florida Department of Commerce. Division of Employment Security, Research and Statistics. All estimates rounded to the nearest 20.

*Preliminary

**Nonagricultural wage and salary employment is estimate of number of jobs in an area summarized from reports submitted by firms subject to coverage by *Unemployment Compensation Law* and supplemented by survey of non-covered firms. It is a place-of-work series which is an indicator of industrial activity in the labor area.

‡Taken from annual *Report on Employment* made by Florida Department of Commerce to U.S. Bureau of Labor Statistics and not consistent with figures appearing elsewhere in this report or data for other counties appearing in this table.

Table 2.1-E Regional Employment by Industry, 1970 and 1975

SIC		1970	1975
01-09	Agriculture, Forestry, Fishing	2.5%	1.5%
10-14	Mining	1.4	1.2
15-17	Construction	7.4	7.8
20-39	Manufacturing	17.6	13.7
40-49	Transporation, Communitions, Electric, Gas, and Sanitary Services	6.4	6.4
50-59	Wholesale and Retail Trade	26.4	27.7
60-67	Finance, Insurance and Real Estate	5.2	6.1
70-89	Services and Miscellaneous	15.5	18.6
90-97	Government	17.6	17.0
		100.0	100.0

General comments and conclusions can be made from the five year picture of labor force characteristics illustrated in Table 2.1-E.

- Agriculture - While a major land use in the region, employment is reduced by improved mechanization of production of farm crops and forestry products. Fishing is lessened by continued urbanization of coastal areas. Low paying category.

- Mining - Mine employment is relatively constant in recent years. Somewhat seasonal, depending on world market conditions. A major shift in Florida production areas will occur during the 1980s, but it is assumed by most that current employment will shift to new mine locations relatively easily. Second highest level of pay scale in region.

- Construction - A significant element of the regional economy. Numbers follow population growth to build residential housing. Suffered during recent 1975-76 recession and its share of regional employment is now probably higher. One of highest pay levels.

- Manufacturing - Another major element of the regional economy. Primarily in Hillsborough and Polk Counties. Numbers increasing through new facilities as industry relocated to Florida and region, but leveling as a percentage of total employment. Coastal counties are seeking industry for economic stability, but not at the expense of environment or quality of life. One of highest pay levels.

- o Transportation, Communications and Utilities - Growing with population gain, but not at the rate of retailing and services. Provides stability and a high pay scale.

- o Trade - Retailing growth is tied to tourism and population gains and, combined with wholesaling, employs over a quarter of the regional work force. A low wage scale.

- o Finance, Insurance and Real Estate - Growing in numbers as area population grows. Along with retailing and services, it provides a place for the many workers seeking employment in the region. Average pay scale.

- o Services - The greatest gains in numbers over recent years. The growth in service demand follows residentialism, tourism and our national spending habits. Wages are average or below.

- o Government - Employment generally follows population growth and, therefore, it has increased as the region grows. An important employer in Hillsborough with military installations, hospitals, university and state regional offices. Also a major element of the DeSoto economy with a state hospital and detention facility located there. Above average scale.

Basic/Non-Basic Employment: Another element of this general overview of the regional economy is a summary of employment characteristics by basic (export) and non-basic (import) activity.

The underlying theory of economic base analysis is that the total level of economic activity in the local area is related to the area's level of exports. This can be measured by income, employment or production.

It is sometimes useful to classify existing industry in this manner to illustrate the importance of selected industries

to the local economy. Basic industries are important in that they attract capital from outside the local or regional geographic limits. This new, or added capital may offer many positive impacts to local conditions through stable employment, personal income, increased taxes and productivity.

Some of this new capital or income may be spent on additional purchases of locally produced goods and services, thereby generating still more employment opportunities within the local area, resulting in a multiplier effect.

Exports may be considered a primary element in the local economy as export activities make up the economic base of the community. Non-export activities, those locally produced and consumed goods and services, are termed non-basic.

An accepted method of identifying basic or non-basic industries is by measuring local employment relationships to the national figure for a similar category.

Table 2.1-F illustrates the percentages of regional employment by major industrial categories and compares this figure to the national percentage. Multiplying total regional employment for a given year by the national percentage establishes if an industry is exporting any goods or services.

Table 2.1-F Location Quatients of Major Industrial Divisions
Central Florida Phosphate Study Area 1975

Major Industrial Divisions	Regional #	Employment %	National Employ. %	Local Demand	Export (Import)	L.Q.
Agriculture, Forestry, Fishing, Mining	11331	3.34	2.31	8046	3285	1.41
Contract Construction	32780	9.41	6.23	21702	11078	1.51
Manufacturing	57624	16.50	32.10	111818	(54194)	0.52
Transportation Communi-cations & Public Utilities	27060	7.73	6.38	22224	4836	1.22
Wholesale & Retail Trade	116062	33.32	26.56	92520	23542	1.25
Finance, Insurance & Real Estate	25624	7.35	6.84	23826	1798	1.07
Services	77862	22.35	19.58	68206	9656	1.14
	348343	100.0	100.0			

Source: Florida Statistical Abstract, 1976
U. S. Statistical Abstract, 1976
Planning/Marketing Services

The final column establishes a Location Quotient (LQ) for the major industrial categories. Location quotients, as identified by Tiebout in The Community Economic Base Study , provide a widely used measure of export industries. They are often referred to as coefficients of localization.

If the quotient is equal to 1.0, the implication is that local employment in this category is at an equal level to the nation, therefore the employment is equal to local demands. If that is true, then variations from 1.0 indicate an export or import of goods and services in that category.

The regional table indicates that all but one category exceeds 1.0 and is presumably exporting value in selected goods and services. Only manufacturing, at 0.51, is measurable as an importer of economic activity.

A more definitve analysis of regional industries might show more realistically the impact of tourist expenditures on the regional economy above the local demand for trade, finance, real estate and services. This analysis would require more specific classifications and/or measurement by income levels. Also, this analysis was not carried to the county level because of the magnitude of local employment.

Regional Employment Projections: Regional population is projected to increase, although at varying annual rates,

by all excepted sources. As it increases from a current level of 1.2 million to around 2.0 million by the year 2000, the labor force will also increase resulting in a gain in employment figures.

The Areawide EIS details county activity and indicates that only two of the seven counties within the Central Florida phosphate region are near the 1974 national median age of 28.7 (Hillsborough and Polk). The ratio of employment to total population within the region also varies from a national figure of 40.7 percent from 26.9 percent in Charlotte to 43.0 in Hillsborough. Charlotte is a retirement community while Hillsborough is a vital commercial center.

Over the next several decades these conditions and trends can be expected to continue in a similar pattern. The overall regional rate of employment to total population, now 39.1 percent, may decline as the population ages and retiree migration continues.

Table 2.1-G shows future regional employment patterns based on projections made in Volume III of the working papers for the Areawide EIS.

Table 2.1-G Projections of Regional Employment

	1980	1985	1990	2000
OBERS E				
Population	1,288,200	1,405,500	1,535,000	1,727,400
Employment	444,500	477,100	512,500	576,200
UF 208				
Population	1,461,600	1,654,900	1,827,200	2,152,200
Employment	502,200	558,500	605,800	712,300

This series of projections were originally prepared for the Economic Base Study of the Four River Basins Area by the Corps of Engineers in 1976.

Several series of projections were made by the authors of the Central Phosphate Industry Areawide Study. The low and high are illustrated in Table 2.1-G. OBERS E is from the U. S. Department of Commerce and UF 208 is from the University of Florida series of population projections. Differences occur in projection of birth and immigration rates.

County Employment Projections: The county had a total employment estimated at 45,271 in March, 1977. The unemployment rate was 7.2 percent in March, 1977 but had dropped to 5.6 percent by September, 1978.

The trend of total wage and salary employment for non-agricultural workers is shown in Table 2.1-H.

Table 2.1-H illustrates a slippage in the percent of manufacturing employment and substantial gains in finance,

real estate and services. As Manatee has gained in population recently, there has been a concurrent demand for service employees to provide for the needs of its residential population. Major new employers have included a 320 bed hospital, 70-store regional shopping center, 4 large neighborhood commercial centers and many new office buildings.

Table 2.1-H Non-Agricultural Employment: Manatee 1970-78

	1970		1978	
	#	%	#	%
Manufacturing	5000	23.9	6000	18.6
Contract Construction	1580	7.5	2200	6.8
Trans., Communn., Utilities	500	2.4	1000	3.1
Trade	6160	29.4	9000	28.0
Finance, Ins., Real Estate	980	4.7	2200	6.8
Services	2980	14.2	5700	17.7
Government	3740	17.9	6100	18.9
Total	20,940		32,200	

Source: Florida State Employment Service

Future employment opportunities in Manatee County are primarily a continuing relationship with population gains. Only manufacturing or industrial development can occur without normal Florida growth. Manatee County is unique in this instance in that it has a deepwater port, large industrial zoned acreage tracts available, an interstate highway linkage to major markets and the Tampa Bay labor force.

Until 1978, no major industrial expansion had taken place in the county for over a decade. The next few years should see an influx in this category, particularly following the

opening of the new Utility Power Corporation plant with some 1200 employees.

The Tampa Bay Regional Planning Council indicated that, within its five-county region, there is a lower than average proportion of workers to population. The 1970 figure was 28.8 percent for the Tampa region while the Florida figure was 31.7 percent. The regional proportion is not expected to vary over the next several decades.

In Manatee County, the worker/population ratio for non-agricultural employment was 27 percent in 1960 and down to 22 percent in 1970. The county has long been a retiree community. This trend will continue but there is expected to be an increasing demand for major shopping facilities, new services, more utilities, government services and industrial expansion. These demands should contain the above illustrated downward trend of the employment to population proportion rate. Thus, employment opportunities should be gaining steadily over the next decades in the many non-agricultural business and industry categories.

Table 2.1-I projects Maanatee County employment from the studies referred to previously in discussing Regional estimates.

Table 2.1-I Projection of Manatee County Employment

	1980	1985	1990	2000
OBERS E				
Population	111,800	116,900	122,200	126,500
Employment	35,200	36,500	37,800	39,600
UF 208				
Population	150,600	176,300	200,000	241,600
Employment	46,600	54,700	62,000	74,900

The OBERS formula used in Table 2.1-I appears low, particularly when looking at individual units of government. The official state 1977 estimate of the Manatee population was 129,313. Based upon the University of Florida figures in the preceeding table, Manatee total population and employment is forecast to gain 60 percent over the period 1980-2000. This is substantially above the regional growth rates of 47 percent in population and only 41 percent in total employment.

Labor Force Characteristics - The labor force, by census definition, is generally all of the population age 16 and over.

In the preceeding sections, there has been discussion of many characteristics of the regional labor force. Characteristics include: employment, participation rates, income levels, income by source, median age and employment by industry category.

A summary of major findings is: regional population is older than the national median age of 28.7 making participation

rates lower than the national rate of 40.7 percent; wage and salary incomes are under national levels, however phosphate workers are among the highest paid in the region.

A significant factor of the Florida economy that is not readily apparent in many statistics is the state's climate as a continuing draw for both labor and industry. This is an important reason for many manufacturers to relocate facilities in the region.

Despite the state's reputation as a retirement haven, almost two-thirds of the people moving to the state during 1970-76 were under age 65, according to a study in a recent issue of the Florida Outlook . Presumably a high percentage are in the labor force. Over ten percent of this migration came to the 7-county region with 6.6 percent to Hillsborough County and 1.3 percent to Manatee.

A picture of the current regional labor force is given in the following table. It now numbers over half a million out of the 1.2 million total population. Unemployment, not seasonally adjusted, was 7.1 percent in 1977 and in mid 1978 was estimated to be 6.2 percent. The cited unemployment rates were just above the U. S. figure of 5.9 percent.

Table 2.1-J Civilian Labor Force, 1977
7-County Region

County	Population (July, 1977)	Labor Force (March, 1977)		Unemployment (March, 1977)
		#	% pop.	
Charlotte	44,313	12,834	29.0	7.2%
DeSoto	17,973	5,485	30.5	6.8
Hardee	17,407	7,042	40.5	4.5
Hillsborough	602,667	280,338	46.5	7.6
Manatee	129,313	48,774	37.7	7.2
Polk	279,574	120,228	43.0	6.8
Sarasota	170,621	56,848	33.3	6.0
Region	1,261,868	532,549	42.1	7.1

Source: Florida Statistical Abstract 1977

Projection of the regional labor force over the next several decades is derived from previous population figures. They were prepared by the Bureau of Business Research at the University of Florida and published in the Areawide EIS study. The OBERS projections are not shown, as they appear to be under existing rates and would be invalid for projection purposes.

Table 2.1-K Civilian Labor Force Projections, 1980-2000

	1980	1985	1990	2000
7-County Region				
Population	1,461,600	1,654,900	1,827,200	2,152,200
Labor Force	613,900	695,000	749,100	860,900
Percent	42.0	42.0	41.0	40.0
Manatee County				
Population	150,600	176,300	200,000	241,600
Labor Force	57,900	67,000	75,000	89,400
Percent	38.5	38.0	37.5	37.0

Source: University of Florida
Planning/Marketing Services

In total numbers over the period 1980-2000, the regional labor force will gain by 40.2 percent and Manatee by 54.4 percent.

Tax Structure - Property taxes are the primary source of revenue to local government in Florida making up 85 percent of local income. While the general sales tax is the richest income producer for the state, amounting to 42 percent of Florida revenues in FY 1976.

Other sources of revenue available to local government include; intergovernmental transfer of revenues, revenue sharing, fees and licenses, utility revenues, sales tax, resort tax, fines and interest.

The state obtains an additional 31 percent of its revenue from selective sales taxes; motor fuels, alcoholic beverages, tobacco products, parimutal wagering, etc. Another 11 percent comes from licenses of all kinds. The remaining sources include; corporate income taxes, property taxes, document taxes and severance taxes.

Of primary interest are those governmental revenues collected from ad valorem and severance taxes.

Ad Valorem Taxes: Within the region, local property appraisers assess rural lands at the lowest possible value under the law. In most cases rangeland, or poor unimproved

pasture, is valued at less than $70/acre.

Land improvement results in higher assessed value. Location also has an important impact on vacant land. Some recent acreage sales in Tampa area amounted to approximately sixty times the assessed value of the agricultural appraised vacant lands.

Mineral deposits also have an effect on the value of property. Recent sales in Hardee County were for 8-10 times the pasture market value of the acreage. Most mining company purchases in Manatee were made over 5 years ago at typically 2-4 times the farm value of the property.

The Manatee County property appraiser tried in 1978 to assess certain phosphate holdings as industrial property. An $800/acre appraisal was made based upon the premise that mining permits had been approved for the site. The company purchased the land in 1975 for about $1300/acre. The company appealed and was able to reduce their assessment to $190/acre.

The rural tax situation is not unique to Manatee. Within the 7-county region, probably all of the counties are over 50 percent agricultural for tax purposes. In Manatee, the figure is approximately 60 percent. The agricultural land area pays less than 2 percent of the total county ad valorem tax base.

For the Swift property, assessment is based on agricultural uses according to a 1971 agreement with the county. The 10,394 acre site in rural northeast Manatee County was assessed at $1,802,000 in FY 1978. This assessed value equaled $173/acre which was more than four times the assessed value of comparable unimproved rangeland surrounding the property. This agreement will probably continue until the land is permitted for mining or a different method of assessment is established.

Severance Taxes: For less than a decade, Florida phosphate mining companies have paid severance tax to the state. Florida is one of 29 states that have this type of tax. The current rate of tax is levied at 10 percent with 25 percent of the proceeds available to the mining company for required reclamation operations. In 1976, the tax produced $9.8 million in revenues to the state at a 5 percent levy. The new taxing formula (1977) doubled the rate but increased the amount available to be returned to the mining company for reclamation credit. There is to be another change in 1980 to a levy of 8 percent.

During the period 1971-77, the state collected some $59 million in severance taxes and refunded $24 million to mining companies for reclamation. Revenues are placed in the general fund of the state. Beginning in 1980, 25 percent of severance revenues will also be used to establish and operate the Florida Institute of Phosphate Research. This

state agency will be charged with research in phosphate mining, processing and reclamation.

The severance tax impacts directly upon the state as a resource for the general fund. This fund is a consolidation of all unallocated revenues. Local governments receive some of these revenues in the form of transfer of funds and revenue sharing. All Florida counties, including Manatee, therefore, currently share in the income produced by the phosphate severance tax.

Other Taxes: In addition to the taxes already described, the industry pays substantial sales taxes on the retail sales of the phosphate rock as feed stock to agricultural chemical products and on the purchase of operating supplies and materials. Sales tax revenues from the industry totaled $13.8 million in 1977 according to the Florida Phosphate Council. They also pay motor vehicle fuel taxes, corporate income taxes and their employees pay personal income taxes on wages.

All of these taxes are paid to the state or federal government. The county or local government directly receives only personal and real property taxes. Indirectly, Florida counties receive significant resources in the form of various revenue sharing funds.

Unique Features of the Regional Economy - An important

feature of the regional economy is its diversity. Within this 7-county region are; Gulf beach resorts, celery farming, cattle ranching, citrus groves, deep water seaports, shipyards, an international airport, wholesale warehousing, a steel mill, breweries, and distilleries, small and large manufacturing facilities, several universities, a medical school, towns of under 3,000 population and a metro city of nearly half a million.

Tourism: It is the number one industry in Florida. The number of tourists in 1978 should exceed the 1977 figure of 31 million according to state officials. It is estimated that tourists spent over $11 billion in the state in 1977. The development of Walt Disney World has opened up Central Florida to the international visitor and has given Florida a 3 percent share of the total world market. State officials were recently quoted as saying that Disney World is now the number one tourist destination in the world.

Long an important element of the regional economy, winter visitors began coming to Central Florida when the railroads came to Tampa prior to 1900. The climate was the reason then as it is today. Rail was superceded by the automobile as a carrier following World War II. Airlines now carry nearly an equal number of annual visitors to the region.

Tourism currently supports many coastal communities with a near twelve months service oriented economy. Only two

decades ago, coastal communities had only a winter season to keep them financially sound. The visitor often becomes a homeowner upon retirement and so it has become a primary source of the state's immigration of new residents.

The agricultural communities in DeSoto, Hardee and Polk counties are only beginning to have any volume of winter visitors. Climate of these inland counties is also mild and, with adequate promotion and financial backing, may at some time support a viable alternative to the expensive Gulf beaches.

Construction: A rather unique facet of Florida regional economics is the constructing of the housing required by new residents. On several occassions, it has been a boom-bust cycle. The last "bust" ended in 1976 following a national recession.

Approximately 80 percent of the states population lives on 10 percent of its land area. The state built some 135,000 housing units in 1978, double the number authorized in '75 or '76 following the highly speculative figure of 284,000 permits authorized in 1972. Most of these units are in urban coastal areas.

The 7-county study region will accomodate approximately 16 percent of the states new permits based on recent trends, or some 21,000 new housing units in 1978.

Contract construction employment totals only 7 percent of state non-agricultural employment. A more valid figure for the total impact of construction would be to add employees in finance, real estate, wholesaling, manufacturing, government, etc. that are directly involved in building and construction. The total figure would also apply to the Central Florida phosphate region.

Retail and Service Trades: Retailing and services total $1.6 million, or 55 percent of the states non-agricultural employment. Within the 7-county study region, the figure is closer to 51 percent, still a significant factor in area economy.

The category offers lower paying opportunities but does provide entry employment for many unskilled workers needing income. It is also an area where many early retirees start their own businesses to begin a second occupation or supplement their own financial situation.

Mining: The typical Florida tourist and probably most residents have never seen one of the state's major industries. Located in the interior and away from major highway patterns, phosphate mining and processing is rather remotely located. Only recent concerns over air quality and water resources have brought attention to Florida residents as to what are the effects of the industry.

Of the seven counties making up the Central Florida phosphate region, three currently have phosphate mining activity with two more planning for such activity. Charlotte and Sarasota counties were included in the Areawide EIS study because they adjoin phosphate operations and may become impacted by changes in air quality, ground-water consumption and accidental discharges of waste water into a major river and estuary system.

In Central Florida, the industry employs some 8,000 workers with a payroll of over $110 million and pays nearly $10 million in property taxes.

2.2 Impact

Introduction - The proposed Swift mining operation is intended to replace existing operations in Polk County with a new facility located in Manatee County. As the older mines cease production, the Duette mine is planned to come on-stream to maintain a continuous source of material for Swift Agricultural Chemicals Corporation operations in Florida into the 21st century.

The proposed mining activity approximates a 30 year time period. Currently the company is in a preliminary phase. This includes ore evaluation, plant design and permitting. Following receipt of all necessary permits, then actual site preparation and plant construction can begin. With

completion of the processing plant, actual mining operations will begin and continue for an estimated 21 years. During the mining period, land reclamation may run from 1-2 years behind mining. Land reclamation will, therefore, continue after mining has ceased. Final reclamation will conclude with rehabilitation of the clay settling area by year 31 according to the mining plan.

Total expenditures for the proposed mining activity will approximate $647 million in capital and operating costs as identified in the DRI application.

The following sections will address the economic impacts of the Swift mining operation on the Central Florida phosphate study region and also upon Manatee County. Costs and values are in constant 1978 dollars except where noted.

Direct Effects - Direct economic effects are measured relatively easily. There will be substantial outlays in capital and labor during construction. Continued mining operations will create expenditures for labor, materials and supplies and energy. Final reclamation will also cause additional costs in labor and materials. The new Duette mining operation will have a stabilizing effect on the 7-county region as employment and expenditures are maintained for an additional 30 years. Without the facility, the region would suffer an opportunity loss as the existing operation ceases and Swift would be unable to replace the

facility.

In actual numbers, the proposed activities impact on the regional economy is small in scale. The region is projected to have a 1990 employment of 605,800 - the Duette mine 324. The mine employment will equal 3.2 percent of projected 1990 regional mining employment of 9,983. Annual production is estimated to be 3 million short tons per year - 6.7 percent of the projected regional figure of 44.8 million tons in 1990. Table 2.2-A from the Areawide EIS illustrates projected regional production from current mining operations plus several planned mine sites undergoing DRI review in 1976-77. The Duette mine would be in addition to the listed production.

Local impacts are several. Polk County is going to lose its Swift mining operation as the ore body runs out. Manatee County can gain substantial tax advantages and, possibly, over 100 new jobs. It is assumed that over 200 workers will commute from the existing Swift labor force in Polk County. Without the proposed operation, the poor rangeland land uses may be retained in the eastern portion of the county with continued lower tax payments to local government.

Swift (DRI Application, 1978) estimates total construction expenditures to be $121.942 million during a three year period. Operational expenditures exceed $524 million over a 21 year period. Tables 2.2-B and 2.2-C illustrate total

Table 2.2-A Projected Economic Impact of Phosphate Industry on Study Area, 1980-2000

Year	Scenario	Production (million short tons)	Phosphate Industry Employment*	Phosphate Industry Payroll** (000,000)	Induced Employment***	Induced Payroll**** (000,000)
1975	Actual†	38.2	8,512	65.8	52,349	221.3
1980	2.11‡	41.2	9,181	71.0	56,463	238.7
	2.15‡	42.2	9,403	72.7	57,828	244.4
1985	2.11‡	45.2	10,072	77.9	61,943	261.9
	2.15‡	33.2	7,398	57.2	45,498	192.4
1990	2.11‡	44.8	9,983	77.2	61,395	259.6
	2.15‡	27.5	6,128	47.4	37,687	159.3
1995	2.11‡	42.0	9,359	72.4	57,558	243.4
	2.15‡	9.1	2,028	15.7	12,472	52.7
2000	2.11‡	36.5	8,133	62.9	50,017	211.5
	2.15‡	2.6	579	4.4	3,560	15.0

*Based on 1975 average of 222.84 workers per million tons produced.

**Based on 1975 average of $7,742 per worker per annum, 1967 constant dollars.

***Based on Bureau of Mines estimates of 6.155 jobs generated for each new job in the phosphate industry.

****Average of $4,228 per worker per annum, 1967 constant dollars.

†U.S. Bureau of Mines (1975) adjusted by Texas Instruments for the study area; Florida Statistical Abstract (1976).

‡U.S. Bureau of Mines (1977) adjusted by Texas Instruments.

‡Texas Instruments projections of production from existing mines.

Table 2.2-B Construction Expenditures.

Item	Amount ($ 000's)	Region (%)	Region ($ 000's)	Manatee County (%)	Manatee County ($ 000's)
Construction					
Labor	12,794	100	12,794	20	2,558
Subcontract					
Labor	3,750	90	3,375	20	750
Other	6,622	90	5,960	20	1,324
Equipment & Materials	45,125	60	27,075	5	2,250
Draglines					
Labor	2,320	90	7,090	20	464
Materials	25,372	8	2,030	--	
Overhead					
Engineering, etc.	25,959	90	23,360	5	1,298
Total	$121,942	63%	$ 76,684	7%	$ 8,644

Source: Duette Mine DRI Application, Table 20.A (2)
Planning/Marketing Services

Table 2.2-C Operational Expenditues Per Year

Item	Amount ($ 000's)	Region (%)	Region ($ 000's)	Manatee County (%)	Manatee County ($ 000's)
Labor & Supervision	5,215	100	5,215	30	1,564
Maintenance Supplies	4,229	95	4,017	20	846
Energy Expense	9,781	90	8,803	--	
Supplies & Equipment	5,332	75	4,000	20	1,066
Reclamation	450	95	428	85	384
Total	25,007	92	22,890	15	3,860
Total Expenditures Over 21 year Period	$525,147	92%	$480,690	15%	$81,060

Source: Duette Mine DRI Application, Table 20.A (3)
Planning/Marketing Services

capital and labor costs of construction and operation.

Local and state tax collections are also a direct effect of new economic activity. The new mining activity will create real property investment in Manatee County that will pay substantial local real estate taxes. Purchases of supplies are also taxable and, since 1979, Florida has had a severance tax on mineral extraction.

The following figures are projected primary direct tax revenues to state and local government during the mining operations:

Sales Tax (State)	Annual Yeild
operating supplies & materials value - $9,561,000 x 4% =	$ 382,400
Severance Tax (State)	
Value to be set by Dept. of Revenue est. value - $16.00/short ton, tax rate (1980) 8% 25% of revenues - returned to mine for reclamation 25% of revenues - to Fla. Phosphate Research Inst. 50% of revenues - to state general revenues	
production 3,000,000 tpy x $16.00 = 48,000,000 x 8% = $3,840,000 - 50% =	1,920,000
Ad Valorem Tax (County)	
value of real estate and plant $120,947,400 x 16.388 mills =	1,982,000

Additonal taxable sources are included in the multipliers presented as indirect and induced effects on the region. Impacts on the national economy are beyond the scope of this

work and have been well presented in the recent Areawide EIS study of the Central Florida phosphate industry.

The following additional direct effects to the county should be measurable:

Agriculture: A small grove will be cleared. Rangeland improved through reclamation will total over 6300 acres (6 times the present area) for an annual gain in productivity of $250,400.

Housing: No housing will be displaced on the site. A portion of mining employment is expected to reside in Manatee County. Some will be relocating from Polk County, probably the majority will be current Manatee residents. New households could number 50. At an average home purchase of $40,000, this could total $2 million in investments in the early years of operations.

Employment: An estimated 100 of the mines' 324 employees will reside in the county. Total payrolls and subcontractor labor costs are projected from Tables 2.2-B and 2.2-C to total over $39 million over the life of the mine. The annual operating payroll for Manatee residents is approximately $1.5 million.

Business: Local wholesalers, servicemen and repair facilities should furnish a portion of the mines total

maintenance and supply needs. This is estimated to amount to $1.8 million annually.

Transportation: The mine site is adequately served by existing state roads and should not generate enough vehicle trips to effect current levels of service. On-site roads will be built by the company. Shipments of processed rock will be by rail and costs for track facilities will be bourne by Swift.

Government Services: The proposed activity should have only a light impact on typical local government services. It will absorb up to 100 local employees but with little impact or demand for public facilities such as roads, parks, or schools. The mine operation itself is in a remote, rural area and is self-sufficient in public utilities, security, fire and safety. The activity would create an expense in monitoring operations and potential pollutant sources. Any costs would also apply to other mining or industrial activities in the county and therefore, actual effects of the Duette operation would be reduced. Actual costs are undeterminable at this time.

Local Taxes: The County tax base would increase greatly with the proposed activity. In 1976, the 10,394 acre site had an assessed value of $1.7 million and yielded ad valorem taxes of $28,137 at the rate of 16.388 mils to Manatee County according to the DRI Application . With capital

improvements completed, the following annual ad valorem tax yield during mining operations are estimated:

	Yield
6624 acres - mineable land @ $800/acre x 16.388 mills	$ 86,843
3769 acres - unmineable land @ $172/acre x 16.388 mills	10,624
Value of plant @ $115,000,000 x 16.388 mills	1,884,620
Total ad valorem tax yield per year	$1,982,087

Indirect/Induced Effects - The direct tax revenues to state and local government can be expanded to include the indirect and induced effects of the proposed activity through input/output analysis. A recent BOM study, Economic Significance of the Florida Phosphate Industry , delineates interindustry multipliers that can be used to further illustrate impacts on the regional economy. It should be recognized that impact estimates are used to reveal magnitude and are not necessarily a precise measurement.

Based on projected mine production figures of 3 million short tons/year (2.720 million metric tons), and a $24.00/metric ton value at the mine, annual production could total some $65.3 million in sales (using constant 1978 dolloars) or direct output. The indirect output effect includes purchases of other goods and services for the operation and sales of various levels of suppliers. To this should be added the induced impacts of wages and salaries of mine workers and suppliers. The following values illustrate an average

production year:

Direct impact	$ 65.3 million
Indirect impact	35.4
Induced impact	118.9
Total impact	$219.6 million

Estimated employment associated with the proposed activity are projected in a simialr manner using BCM multipliers for an average year of production:

Direct impact	324 employees
Indirect impact	235
Induced impact	1425
Total impact	1994 employees

2.3 Mitigating Measures

No adverse economics impacts requiring mitigating measures have been identified. The economic impacts generated by the proposed project have a favorable affect upon the area.

3. LAND USE

The study area delineated in this survey element embraces the 7-county region as described in the recent Areawide EIS of the Central Florida Phosphate Industry. This includes the Florida counties of Charlotte, DeSoto, Hardee, Hillsborough, Manatee, Polk and Sarasota .

3.1 Baseline

Current Regional Land Use - Land use activities in this 5500 square mile region are primarily agrarian in nature. Urban development occurs along Gulf and bay coast lines in Charlotte, Hillsborough, Manatee and Sarasota counties. The interior of the region houses smaller communities astride long established north-south railroad or highway routes. The lone exception being the city of Lakeland, an important commercial center located in Polk County.

There are no recent county-wide land use surveys that are compatible or that could be easily compiled to cover the scope described in this regional overview. This study therefore, uses the material developed for the 1976 Corps of Engineers Four River Basins Area Economic Base Study . The USGS Land Use Data and Analysis (LUDA) program measured Central Florida by aerial reconnaissance and generated an acceptable base for analysis.

Based on the USGS land use survey, only 9.3 percent of the 7-county area was measured as Level I and II "Urban or built-up" in 1975. This amounts to 520 square miles housing an estimated population of 1.2 million.

Nearly 63 percent is listed as crops, pasture, groves, and rangeland while barren land, including mining operations, totaled only 6 percent of the study area.

Future Regional Land Use Without the Proposed Action

General Trends: It is generally forecast by business and government planners that future urbanization of West Central Florida will expand around existing centers of population.

Typically, agricultural land uses are reduced as urban encroachment occurs. Main losses of economic importance in the 7-county region are some 22,000 acres of orchards and groves, primarily in Hillsborough, Manatee and Polk counties. Considerable amounts of pasture and rangeland will also be removed from agricultural usage during the period 1975-2000. The Areawide EIS study projects that much of this displacement will be temporary as reclamation of mined lands will return some of the former agricultural land to production.

Land areas not housing people, industry, shopping and transportation right of ways will have been reduced to some 4827 square miles of the region's total 5500 square mile area by the year 2000. This leaves 86 percent of the region still non-urban at the end of the 25 year study period, 1975-2000. Table 3.1-A illustrates projected future land use by specific categories for the 7-county region.

In some communities there will be a revitalizattion of older distressed neighborhoods. Tampa is a good example. Higher densities will continue to be found along the high valued

Table 3.1-A Seven-County Study Area Generalized Land Use, 1975 and 2000

Applicable LUDA Level I/Level II	1975 Hectares	1975 Acres	1975 % of Study Area	1985 % of Study Area	2000 Hectares	2000 Acres	2000 % of Study Area	% Change: 1975-2000	2035 % of Study Area
Urban or Built Up									
Residential	79,345	196,059	5.49	7.05	119,291	294,764	8.26	50.5	11.08
Commercial and services	8,739	21,593	0.61	0.70	10,965	27,094	0.76	24.6	0.87
Industrial	10,358	25,595	0.72	1.13	15,562	38,451	1.08	50.0	0.95
Transportation, communications, and utilities	7,459	18,431	0.52	1.15	16,470	40,697	1.14	119.2	1.16
Industrial and commercial complexes	558	1,379	0.04	0.07	583	1,441	0.04	0	0.04
Mixed Urban or built-up areas	5,787	14,300	0.40	0.40	5,826	14,396	0.41	2.5	0.41
Other Urban or built-up areas	22,429	55,420	1.55	1.65	25,152	62,147	1.74	12.3	1.95
Agricultural Land									
Cropland and pasture	320,405	791,709	22.18	20.46	299,396	739,800	20.73	-7.0	21.35
Orchards and groves	136,325	336,854	9.44	9.02	127,384	314,760	8.82	-6.8	8.35
Other agricultural land	-	-	-	-	-	-	-	-	-
Rangeland	451,742	1,116,238	31.28	29.38	422,286	1,043,455	29.24	-7.0	28.91
Forest Land	69,649	172,101	4.82	3.81	58,784	145,255	4.07	-18.4	4.67
Water	67,411	166,570	4.67	4.72	68,038	168,120	4.71	0.9	4.71
Wetland	178,266	440,494	12.34	12.21	176,145	435,247	12.20	-1.1	12.15
Barren Land									
Strip mines, quarries, and gravel pits	45,073	111,375	3.12	4.98	51,070	126,193	3.54	13.5	0.17
Other barren land	40,715	100,605	2.82	3.27	47,070	116,308	3.26	15.6	3.23
County Total	1,444,262	3,568,723	100.00	100.00	1,444,262	3,568,723	100.00		100.00

Source: Areawide EIS

coastal areas and on the barrier islands that can be easily accessed by private automobile.

The automobile will also influence urban development along the new I-75 route as it travels south of Tampa, through the study region and towards Miami. Current funding levels should complete the Interstate Highway program in Charlotte, Lee, Manatee and Sarasota counties by 1983, according to an October, 1978, statement of Florida's Senator Richard Stone. The Hillsborough County link will come later. The missing Hillsborough section will not deter through traffic from using I-75 from Bradenton to Fort Myers to escape the congested U. S. 41, Tamiami Trail.

The Areawide EIS projects urban land uses to total nearly 500,000 acres by the year 2000. This is a 25 year gain of over 228 square miles and equals a 43 percent increase over the 1975 figure. Industrial growth in future years will follow two major patterns: growth directly or indirectly related to the phosphate mines; and light industry growth which is labor-intensive.

Urban Built-up Uses: The pattern of built-up land uses will follow the one presently established throughout the region. All types of building will continue to be concentrated along the Gulf Coast and along existing transportation routes.

The Areawide EIS states that between 1978 and 2000, Level

I, or the built-up use category will experience an increase of approximately 40 percent. This will be primarily due to residential, industrial, transportation and communication uses along with utility uses in the Level II category. The major catalysts for increased development will be industrial expansion, primarily related to the phosphate industry, additional power plant capacities and continuing in-migration to Florida over the long-term.

Agricultural Uses: Agricultural uses are expected to decrease approximately 7 percent through the year 2000. The decrease would be due to displacement of these uses by urban build-up and phosphate mining. The mining impact is considered temporary due to the planned reclamation of land for agriculture and other uses.

Rangeland: Rangeland is also expected to decline by 7 percent due to the expansion of built-up uses. Two significant impacts upon rangeland, in addition to urban expansion, will be by the construction of a Florida Power & Light power complex in DeSoto County and increased strip mining.

Forest Lands: The 7-county region is expected to lose 18.4 percent of its forest land by the year 2000. A larger portion will be displaced by phosphate mining than by urban development. Certain portions of the phosphate mining area will be reforested by the year 2000, which will offset the

anticipated loss.

Water: The anticipated changes in surface water land use reported by the Areawide EIS included an increase of 0.9 percent. This increase would be created by small lakes, ponds and reservoirs related to phosphate mining.

Wetlands: A slight decrease of 1.1 percent in wetland area can be expected within the region by the year 2000. The difference would not be explained by the Areawide EIS Study apart from normal variables associated with seasonal changes.

Barren Land: Barren land, the result of strip mining, has been forecast to increase in the period from 1975 to 2035 due to an expected 13.5 percent increase in the area occupied by phosphate mine companies. The actual increase in barren land is difficult to forecast because only a portion of mine land owned is put into the active mining operation and reclamation processes will be underway throughout the time period.

Future Manatee County Land Use Without the Proposed Action

General Trends: Manatee County is presently an area dominated by open space land uses. Rangeland and agricultural uses made up approximately 75 percent of the county in 1975. More intense land uses, described as urban

built-up uses within the Areawide EIS Study, accounted for 7.67 percent of the county in 1975. Built-up areas were located predominately in the area immediately around Bradenton and Palmetto. Table 3.1-B illustrates generalized land uses in the county in 1975.

There are three predominant catalysts for land use change and development in Manatee County which can be expected to continue present trends. The most significant is the coastal geography of the county which is attractive to urban uses such as residential, commercial, and industrial development. The coastal area can be expected to remain the dominant locus for future growth. The second catalyst is existing highways, which act as a spine for the growth areas of the county. The third is the natural resource that exists in the form of phosphate deposits.

Urban Built-up Uses: Urban built-up land uses accounted for 7.67 percent of the total Manatee County area in 1975. The Areawide EIS study and the Draft Manatee County Comprehensive Plan offer useful insights into future land use trends within the built-up area as well as other areas. Residential uses, for example, which made up 3.8 percent of the County in 1975, can be expected to increase proportionately to population growth. Increased density, however, will absorb a portion of residential development before it affects the undeveloped land base. Commercial uses will increase in a proportion roughly following

Table 3.1-B Generlized Land Use, Manatee County, 1975

Applicable LUDA Levels Level I/Level II	Area Hectares	(Acres)	Percent of County
Urban or Built-Up			
Residential	7,743.5	(19,134)	3.85
Commercial and services	968.9	(2,394)	0.48
Industrial	607.9	(1,502)	0.3
Transportation, Communications, and Utilities	301.9	(746)	0.15
Industrial and commercial complexes	120.6	(298)	0.06
Mixed urban or built-up areas	484.4	(1,197)	0.24
Other urban or built-up areas	5,212.9	(12,881)	2.59
Agricultural Land			
Cropland and pasture	55,212.0	(136,427)	27.48
Orchards, groves, vineyards, nurseries, and ornamental horticultural areas	9,047.5	(22,356)	4.52
Other agricultural land	-	-	-
Rangeland	95,237.6	(235,329)	47.4
Forest Land	3,639.1	(8,992)	1.81
Water	5,897.3	(14,572)	2.94
Wetland	10,988.0	(27,151)	5.47
Barren Land			
Strip mines, quarries, and gravel pits	80.9	(200)	0.04
Other barren land	5,372.8	(13,276)	2.67
County Total	200,915.3	(496,455)	100.

Source: Areawide EIS

residential growth. By the year 2000, commercial uses are expected to increase 107 percent and residential uses are expected to increase 120 percent over the 1974 levels. Industrial land uses are forecast to grow rapidly within the county, 206 percent over the 1974 level. However, the increase in acreage does not necessarily indicate the growth of business activity because certain portions of the industrial acreage would be used for amenities within planned industrial parks and for warehouse development.

Agricultural Uses: Manatee County's agricultural land made up 27.5 percent of the county in 1975. The majority of agricultural land exists in the central and the southern portions of the county. Smaller portions exist in the northeastern area of the county where phosphate deposits predominate.

Rangeland: The largest concentration of rangeland exists in the south-central and northeastern sections of the county. The total area represented 47.4 percent of the county in 1975. Any future depletion of rangeland would largely occur due to increased phosphate mining activity as the phosphate deposits are concentrated within the area presently used largely for rangeland. The two uses, however, will not directly offset one another because the total area where the deposits exist will not be disturbed by mining activity.

Forest Land: Only a small percentage of Manatee County was forest land in 1975, according to the Areawide EIS. The total acres amounted to 1.81 percent and is not expected to change significantly.

Water: Water areas accounted for 2.94 percent of the county in 1975. The greater majority of the water area exists in the western and coastal portions of the county where it will be available for use throughout future years.

Wetlands: Wetlands occupied 5.47 percent of Manatee County in 1975. Wetlands were distributed throughout the county, often associated with a river or stream. There are no trends to indicate significant effects upon existing wetland acreage.

Barren Land: Barren land, largely strip mines, quarries and gravel pits and beaches made up 2.71 percent of Manatee County in 1975. The area specifically devoted to mines, quarries and pits accounted for 0.04 percent of the total area and can be expected to increase.

3.2 Impact

General Regional Impact - The 10,394 acres that make up the total mining site represent 0.3 percent of the 7-county region. The majority of the site, approximately 78 percent, consists of unimproved agricultural land and rangeland with

poor soil conditions.

The site is proposed for agriculture use in the Manatee County Comprehensive Plan. The planned mining operation is consistent with the plan because of the proposed land reclamation program.

Built-up areas within the region will remain distant from the site throughout the term of the mining operation. There will be no new locus of population or commercial activity near the site, since existing built-up areas are within a reasonable driving distance.

It is anticipated that many of the mine workers will have been employed at other mines within the region. Experience with other mines immediately adjacent to the site indicates that the built-up areas of Bartow, Mulberry, Ruskin, Parrish, Myakka City, Palmetto, and Bradenton are sufficiently close to serve the residential needs of mine employees. Because of this, no new built-up areas or significant expansion of existing built-up areas will be attributable to the mine.

A driving distance of approximately 25 miles puts the cities of Bartow and Bradenton an equal distance from the site. The future growth patterns of these two areas will be influenced by strong factors that will tend to negate a significant effect by the mine. Bartow, and nearby Mulberry, for example, will tend to grow along Route 60, a major

east-west transportation route. Bradenton, and other nearby built-up areas, will tend to grow in proximity to the attractive coast.

Table 3.1-A, entitled 7-County Study Area Generalized Land Use, 1975 and 2000, illustrates the anticipated changes in rangeland, wetland, forest and agricultural areas. The mine operation will have an impact upon these land uses which currently make up the mine site.

The most significant impact will be on rangeland which makes up the majority of the existing site. The removal of the 5,673 acres of rangeland within the site would decrease the region's inventory by approximately 0.5 percent.

Wetland and forest areas could be expected to increase as a result of the land reclamation process.

Agricultural land would be significantly increased by the mining process. This is attributable to creation of improved pasture land once the disturbed land is reclaimed. Approximately 4516 acres of agricultural land would be gained by the region.

General Manatee County Impact - The geographic location of the Duette Mine in the northeast corner of Manatee County gives it a central position within the region. This location will tend to lessen its impact directly upon the built-up

area of the county lying to the west. In addition, the existing highways allow the mine to be served equally by the built-up areas of Polk County, to the north along Route 37, and Manatee County to the west along Route 62. Route 62 also puts the built-up areas of Hardee County within reach. The 1975 Manatee County Comprehensive Plan describes the area in which the mine land is located as Planning District 23. This district encompasses the entire eastern portion of the county and contains about 407,614 acres. The Plan characterizes the district as remote with land uses scattered and not of immediate concern from a County growth standpoint except for efforts to preserve agricultural land and sensitive river shorelines.

The proposed action will not significantly affect the future growth patterns within the built-up areas of Manatee County. The anticipated growth in residential land use will remain in and around existing built-up areas throughout the 20 year life of the mine operation. The commercial and institutional land uses generally associated with residential development will also develop where they are presently concentrated. Industrial development, which is expected to absorb an increasing share of Manatee County land, a 206 percent increase over the 1974 level, will tend to grow in and around the population centers of Bradenton, Palmetto and Parrish where they will be convenient to major highways, ports and other urban land uses.

The northeastern portion of Planning District 23, where the mine land is located, is principally made up of agriculture, forest, wetland, rangeland and barren land. The mine would largely displace unimproved rangeland, which made up 47.4 percent of the county in 1975.

The Areawide EIS study, in its discussion of existing and future land uses within the County, indicated that improved agricultural land will remain principally in the central area of the county immediately to the east of the built-up area. Of the 158,783 acres of agricultural land in the county in 1975, 2257 acres were located on the Swift site. This acreage would increase over three times to 6773 acres through land reclamation efforts.

The principal land use loss for Manatee County would be in unimproved rangeland, which makes up approximately 78 percent of the mine site. However, the true impact of this loss is better indicated in terms of the entire inventory of rangeland in Manatee County; in these terms, the loss would amount to 0.2 percent.

The mine property includes 1837 acres of wetland. This represents approximately 6.5 percent of wetland in Manatee County. Reclamation processes and planned preservation will result in approximately 2110 acres of wetland remaining after mining.

Only a very small portion of the mine property is forested upland. The 628 acres represent approximately 6.9 percent of the forest in Manatee County. The total amount of forest would be improved by the mine land reclamation. Forested uplands resulting from reclamation include 829 acres of longleaf pine flatwoods and palmetto range that will be selectively planted with longleaf pine seedlings for a total of 1026 acres of forested land.

3.3 Mitigating Measures

All necessary mitigating measures for land use will be provided through the reclamation process described in detail in the Reclamation Resource Document. No significant adverse impacts on land use requiring additional mitigating measures have been identified.

4. COMMUNITY SERVICES AND FACILITIES

4.1 Baseline

Regional Facilities - The 7-County Region contains a variety of community facilities including water supply, solid waste removal, electricity supply, transportation systems, medical facilities, schools, parks, recreation facilities, police and fire protection. The majority of the built-up or urban area of the region is served by facilities operated on a

local or county level. The regional scale facilities tend to serve more than one locality and cross county lines. Such facilities include the highway system, railroad lines, electricity supply and certain law enforcement and recreation facilities. The local and regional highway system and railroad lines are discussed in the Transportation Resource Document.

Electricity: Electric power producers within the region have been able to supply the needs of both domestic and commercial users throughout recent years and can be expected to meet the requirements of the future. The phosphate industry is a major user of electrical power, however, its requirements are such that it provides a means to absorb the capacity generated to meet the peak loads of other users. The Parrish Plant of Florida Power & Light Company provides a major source of power for the region along with plants owned by Tampa Electric Company and Florida Power Corporation.

Other Regional Facilities: These include law enforcement by the Florida Highway Patrol, major recreational and cultural facilities, higher education facilities, and special medical facilities. All of the regional facilities cited serve the needs of residents largely within the built-up areas of the region. The contribution to the population base by the proposed action will not substantially change the type or growth of facilities which would otherwise exist

within the region in future years.

Facil'ties Within Manatee County - Community facilities provided at local and county levels include governmental administration, law enforcement, fire protection, public water supply, waste disposal, health care, recreation and education. Without the proposed action, the majority of the facilities cited would serve the population with the built-up areas of the county.

Water supplies within Manatee County will serve the requirements for potable water within the populated areas Bradenton, Palmetto, and island areas. Sarasota County will be provided with some service. The City of Bradenton Water System is supplied by the Ward Lake Reservoir. The Manatee County Utilities System is supplied by the Lake Manatee Reservoir. In addition to increased residential demands, there is a likelihood of increased industrial demands as this segment of the economy grows within the county. Certain additions to the present supply capacity have been recommended to meet the needs through the year 2000.

Fire protection and law enforcement are community services which have a concentrated involvement within the built-up area of the County and lesser involvement in more sparsely populated areas. Fire protection is provided on a paid municipal and volunteer level throughout the County. Law enforcement is provided county-wide by the Manatee County

Sheriffs Department. There is no anticipated problem in meeting the levels of service required in future years by either the fire or sheriff departments.

Sewage disposal within the County is provided by 27 public facilities and 195 private facilities with a total capacity of approximately 21.5 million gallons per day. Public systems characteristically serve the municipal built-up areas of the County. Solid waste is removed by three municipal collection systems and 14 county franchise systems to be deposited in County regulated landfills.

Health care in Manatee County is provided by two hospitals with 825 beds and is augmented by private nursing and convalescent facilities.

Education is provided by 23 primary and secondary schools with a total enrollment of 18,683 students. Higher education is offered through Manatee Junior College and the University of South Florida.

Recreation within the County is provided by many public and private facilities, including several public beaches, boat ramps, fishing piers, ball fields, golf courses, parks, etc.

4.2 Impact

Region - The Duette Mine operation will be implemented to replace production of Swift mines scheduled to be phased out of production. In this respect, a portion of the impact upon regional community facilities will be absorbed by the decreasing demands of the former mines.

Phosphate processing characteristically uses a significant amount of water, however, the water is not provided by public water systems. The water used by the mine will be provided by wells of the site. Effects upon the aquifer which would supply the wells will be offset by recharge measures and are addressed elsewhere.

Electricity is also a major element of phosphate processing. The proposed mine would be served by the Parrish Plant of Florida Power & Light Company System, however, other companies serving the region could augment the Parrish Plant when necessary. Upon completion of mining operations in 20 years, generating capacity will be available to serve the projected population growth that will locate in the region.

The highways that serve the region will be sufficient to serve the trips generated by the Duette Mine personnel. Very little traffic other than personnel trips to and from work is anticipated. Ore material will be moved by railroad.

Improvements and extensions to existing lines will be required to serve the Duette mine and other mines in the region.

The other regional community facilities largely serve the residential population base and can be expected to be expanded upon through general population growth pressures. The 300 personnel employed by the mine will not significantly affect the demand for services.

Manatee County - Manatee County and local jurisdictions provide community facilities which are not of a regional scale. Such facilities generally serve the built-up area of the County where the population can be expected to be concentrated within future years.

The Duette mine is not expected to have a significant effect upon potable water supplies within the County. Fire protection and law enforcement facilities largely serve the built-up area and there is no reason to anticipate any increased service as a result of the proposed mine. Fire protection and emergency medical services will be provided on the mine site. Domestic waste generated by the mine will be treated on-site. Industrial wastes will be recycled during the mine reclamation process. The waste will be pumped to containment areas where it will be settled out. Therefore, no impact from waste generation is anticipated on any public system.

The health, education and recreation facilities within the County are not expected to receive a significant impact because they are directly related to the growth in population. Manatee County currently provides an acceptable level of public facilities and services by public and private support. Most services are based on population or market demand and increase annually with growth. The small population generated by the proposed mine will be dispersed over several residential areas, and only a portion will be in Manatee County. Therefore, minimal impact will be perceived in the county.

4.3 Mitigating Measures

No adverse impact requiring mitigative measures have been identified.

5. SENSITIVE MANMADE AREAS

5.1 Baseline

The intent of this element is to identify those manmade areas or features that are susceptible to being adversely impacted by the proposed activity.

Typically for a mining operation this might include: residential areas or even small cities or towns and other

urban development; transportation systems, roads, airports, railroads, ports; and rural development of farms, nurseries, feedlots, ranches, and other intense agricultural uses.

The Duette Area - Section 3. Land Use, addressed general characteristics of land development within the 7-county region and, more specifically, Manatee County where the proposed mining activity will occur.

Over 75 percent of the county is considered rural under present development patterns. Urban encroachment will take place over the next several decades into some of the western farm and crop areas, but no significant urban housing or commercial development is projected to occur in the Duette area in the forseeable future.

Presently, only a few manmade features are within the rural Duette area. They include three state highways and the county road connecting SR 62 near the SR 37 intersection and the Duette School. Another scattered cluster of housing is west of the mine site near the Bunker Hill church.

Other urban features include the Duette elementary school, the county's only one-room school house, a small country church, two small cemetaries and a utility substation. Rural manmade features include fencing, drainageways, farm buildings and other structures which are now dilapidated or actually in ruin.

5.2 Impact

The primary impact of a surface mining operation on any on-site manmade feature would be its total removal by site clearing.

Secondary impacts are those environmental conditions that might change because of mining and processing that would effect human habitation and public facilities. These might include an increase in noise levels and air pollutants, both dust and chemicals released by plant operations. Increased vehicle traffic on local roads would also be a secondary impact.

Primary Impacts - No existing families will be displaced by mine operations. Several old homesites and minor prehistoric sites will be destroyed by mining operations. The Archaeological and Historical Properties Resource Document recommends protecting a prehistoric site which was deemed to be of potential significance. There are no historic sites or structures of sufficient significance to meet National Register criteria on the site that will be impacted.

Secondary Impacts - The local highway and road system will witness increasing vehicle trips during mine operations. The Transportation section addresses this issue and indicates

that projected traffic is light and would not have a negative impact on road conditions.

Other secondary impacts on nearby residents, the school and church will be increased noise levels when mining operations are located close by. Wind blown soil may also be a nuisance to nearby residents, but should be controllable through proper clearing and revegetative techniques.

Another source of fugitive emissions will be the drying operation and railroad car loading. Abatement measures are required and the site is well inside the property and over a mile from any residence.

Existing agricultural activities adjacent to the proposed mining activity should not be impacted by Swift operations other than a potential for ground and surface water changes in volume or flow. This is addressed in the appropriate section.

Agriculture land uses on-site undergo a significant positive economic change as rangeland is mined, reclaimed and then turned into improved pasture or seasonal crop lands.

5.3 Mitigating Measures

Adverse impacts and their associated mitigative measures for cultural resource, transportation, and air quality have

been examined in their respective sections. No additional adverse impacts requiring mitigating measures have been identified.

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